Permit Fact Sheet

General Information

Permit Number:	WI-0030767-10-0	
Permittee Name:	ASHLAND SEWAGE UTILITY	
Address:	2020 6th St East	
City/State/Zip:	Ashland WI 54806	
Discharge Location:	1300 feet north from the foot of 29th Ave East (NE¼ – NW ¼ of Section 27; T48N-R4W)	
Receiving Water:	Chequamegon Bay of Lake Superior in the Fish Creek Watershed of the Lake Superior Drainage Basin, Ashland County (WIBC – 2751220)	
StreamFlow ($Q_{7,10}$):	10:1 (Lake)	
Stream Classification:	Cold Water (CW) community, public water supply, and outstanding resource water (ORW)	
Wild Rice Impacts	No impacts identified. No wild rice waters inventoried near the outfall.	
Design Flow(s)	Annual Average	Dry Weather 1.92 MGD Wet Weather 3.20 MGD
Significant Industrial Loading?	No significant industrial loading. The facility accepts 4,816 gallons per day of landfill leachate, 10,096 gallons per day of holding tank wastes and 68 gallons per day of septic tank waste.	
Operator at Proper Grade?	Yes	
Approved Pretreatment Program?	N/A	

Facility Description

The City of Ashland owns and operates a domestic wastewater treatment system. The plant designed to treat 1,920,000 gallons per day, currently treats an average of 1,222,000 gallons per day.

The facility consists of a step screen and aerated grit tank to remove debris from untreated wastewater before entering the oxidation ditches where it mixes with activated sludge which breaks down the organic matter. Activated sludge is composed of settled solids containing naturally occurring active biological material recycled from the treatment system. Alum is then added to the wastewater to precipitate phosphorus. The treated water is gravity fed into clarifiers where solids including phosphorus settle out. The cleaned wastewater (effluent) is disinfected year-round using an Ultra-Violet light system and discharged to Chequamegon Bay of Lake Superior.

Settled solids (sludge) are removed from the clarifiers; some are returned to the head of the oxidation ditches to re-seed the new wastewater entering the system. The sludge that is not used as activated sludge is treated by bacteria and organisms through aerobic digestion which reduces harmful pathogens. Water is removed from the sludge by a belt press before it is landspread on Department approved agricultural sites. If needed, liquid sludge can be removed prior to the belt press and landspread as needed.

The plant includes a retention basin to handle wet-weather flows in excess of the peak plant capacity. Wastewater collected in the retention basin is pumped back to the plant for treatment after peak flows are over. The collection system included 11 lift stations and approximately 60 miles of sanitary sewer. The facility also accepts hauled holding and septic tank wastes and landfill leachate.

Substantial Compliance Determination

There have been some minor violations of effluent limits and late reporting. However, the facility has taken the necessary steps to correct their actions and nothing further is required at this time. All other conditions are being met. The facility has met all of the previously required actions as part of the enforcement process.

After a desk top review of all discharge monitoring reports, Compliance Maintenance Annual Reports (CMARs), land application reports, compliance schedule items, and a site visit on 12/15/2021, the Ashland Sewage Utility has been found to be in substantial compliance with their current permit.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)**
701 **INFLUENT**	An average of 1.197 MGD (2017-2021 data)	Representative samples shall be collected in the influent pipe ahead of the step screen.
001 **EFFLUENT**	An average of 1.222 MGD (2017-2021 data)	Representative samples shall be collected from the effluent channel prior to ultraviolet disinfection except for Escherichia coli (E. coli) and Whole Effluent Toxicity (WET) Tests samples which shall be collected after disinfection. The permittee is authorized to discharge to the Chequamegon Bay of Lake Superior in Ashland County.
002 **SLUDGE**	290 dry tons (information supplied in the application)	Representative samples of the belt filter press cake shall be collected using a method appropriate for the specific test.
003 **SLUDGE**	Sludge prior to drying occasionally needs to be removed. Any volume from 003 is included with the volume of 002.	If the aerobically digested sludge (prior to processing in the belt filter) needs to be removed the Department shall be contacted prior to removal for proper sampling requirements and forms. Representative samples shall be collected from the storage tank using a method appropriate for the specific test only when this sludge will be landspread.
101 **INPLANT**	Not applicable – mercury monitoring only	This is the field blank sample and it shall be collected using standard sample handling procedures.

1 Influent - Monitoring

Sample Point Number: 701- INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	Daily	24-Hr Flow Prop Comp	
Suspended Solids,		mg/L	Daily	24-Hr Flow	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Total				Prop Comp	
Mercury, Total Recoverable		ng/L	Quarterly	24-Hr Flow Prop Comp	* See the "Mercury Monitoring" subsection for more information.

Changes from Previous Permit:

No changes were required in this permit section. Sampling requirements and frequencies are the same as the previous permit.

Explanation of Limits and Monitoring Requirements

The parameters are standard for municipalities, as are the monitoring and frequency requirements for facilities with a biological treatment plant.

BOD5 and **Suspended Solids** - Tracking of BOD5, and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code.

Mercury – Influent monitoring is required as a condition of reissuing a permit with an alternative mercury effluent limitation, per NR 106.145(6) Wis. Adm. Code.

**The Mercury Monitoring table note refers to a permit section explaining the continued use of testing with a limit of quantitation (LOQ) less than 1.3 ng/L.*

2 Inplant - Monitoring and Limitations

Sample Point Number: 101- MERCURY FIELD BLANK

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Grab	* See the "Mercury Monitoring" subsection for more information.

Changes from Previous Permit:

No changes were required in this permit section. Sampling requirements and frequencies are the same as the previous permit.

Explanation of Limits and Monitoring Requirements

At least one field blank shall be collected for each set of mercury samples (a set of samples may include any combination of influent, effluent, or other samples collected on the same day) per NR 106.145(9) and (10) Wis. Adm. Code. The purpose of the field blank is to determine if the field or sample transporting procedures and environment have contaminated the sample.

**The Mercury Monitoring table note refers a permit section explaining the continued use of testing with a limit of quantitation (LOQ) less than 1.3 ng/L.*

3 Surface Water - Monitoring and Limitations

Sample Point Number: 001- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Monthly Avg	30 mg/L	Daily	24-Hr Flow Prop Comp	
BOD5, Total	Weekly Avg	45 mg/L	Daily	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	Daily	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 mg/L	Daily	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	
E. coli	% Exceedance	10 Percent	Monthly	Calculated	*See the E. coli Percent Limit subsection below. Enter the result in the DMR on the last day of the month.
Phosphorus, Total	Monthly Avg	1.0 mg/L	Weekly	24-Hr Flow Prop Comp	
Mercury, Total Recoverable	Daily Max	11 ng/L	Quarterly	Grab	**See the "Mercury Monitoring" subsection for more information.
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen = Total Nitrogen Kjeldahl (mg/L) + Nitrite+ Nitrate (mg/L)
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	***See the "Whole Effluent Toxicity Testing"

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					subsection for more information.
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	***See the "Whole Effluent Toxicity Testing" subsection for more information.
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring is required during the 2025 calendar year.
Arsenic, Total Recoverable		ug/L	Monthly	24-Hr Flow Prop Comp	Monitoring is required during the 2025 calendar year.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring is required during the 2025 calendar year.
Copper, Total Recoverable		ug/L	Monthly	24-Hr Flow Prop Comp	Monitoring is required during the 2025 calendar year.
Hexachlorobenzene		ug/L	Monthly	24-Hr Flow Prop Comp	Monitoring is required during the 2025 calendar year.

Changes from Previous Permit

- Fecal coliform monitoring and limits have been replaced with E. coli monitoring and limits.
- Addition of quarterly sampling for N series (nitrate + nitrite, total Kjeldahl nitrogen and total nitrogen).
- Monthly monitoring for ammonia, copper, arsenic, chloride and hexachlorobenzene monitoring is required during the 2025 calendar year.

Explanation of Limits and Monitoring Requirements

All categorical limits are based on NR 104.02 and NR 210 (Subchapter II) Wis. Adm. Code. More information on categorical and water quality based effluent limits (WQBEL) be found in the "Water Quality-Based Effluent Limitations for the Ashland Sewage Utility WPDES Permit No. WI-0030767-10-0" memo dated December 23, 2021

BOD and **Total Suspended Solids -** Categorical limits for BOD and TSS are required per NR 104 and 210.05, Wis. Adm. Code.

pH – Categorical limits for pH are required per ch. NR 210 (Subchapter II).

E. coli – Fecal coliform monitoring and limits have been replaced with E. coli monitoring and limits. E. coli limits of 126 #/100 ml as a monthly geometric mean that may never be exceeded and 410 #/100 ml as a daily maximum that may not be exceeded more than 10 percent of the time in any calendar month apply.

The following equation should be used to calculate percent exceedances.

# of Samples greater than 410#/100

Total # of samples x 100 = % Exceedance

Revisions to bacteria surface water quality criteria to protect recreational uses and accompanying E. coli WPDES permit implementation procedures became effective May 1, 2020. The new rule requires that WPDES permits for facilities with required disinfection include monitoring for E. coli while facilities are disinfecting during the recreation period, and establish effluent limitations for E. coli established in s. NR 210.06 (2), Wis. Adm Code. The administrative code rule changes included the following actions: revised the bacteria water quality criteria from fecal coliform to E. coli to protect recreation in ch. NR 102, Wis. Adm. Code.; removed fecal coliform criteria for certain individual waters from ch. NR 104, Wis. Adm. Code.; revised permit requirements for publicly and privately owned sewage treatment works in ch. NR 210, Wis. Adm. Code.; and, updated approved analytical methods for bacteria in ch. NR 219, Wis. Adm. Code.

**The E. coli Monitoring table note refers a permit section explaining the calculations needed to determine the percent exceedance.*

Phosphorus – Phosphorus requirements are based on the Phosphorus Rules as detailed in NR 102 (water quality standards) and NR 217, Wis. Adm. Code (effluent standards and limitations for phosphorus). Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. Currently in NR 217 Wis. Adm. Code there are three types of limit calculations used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL), a WQBEL determined by stream criteria and a WQBEL based on a Total Daily Maximum Daily Load (TMDL) allocation.

In the case of the City of Ashland:

- A TBEL of 1.0 mg/L is needed if a facility discharges more than the threshold of 150 pounds per month (s. NR 217.04(1)(a)1 Wis. Adm. Code). The facility discharges more than the threshold; therefore, a TBEL is applicable this permit term.
- Based on the size and classification of the receiving water, the water quality criterion for Lake Superior (a Great Lake) is 5 ug/L. At this time no WQBEL has been calculated because NR 217.13(4) Wis. Adm. Code states that the Department shall set limits consistent with approved nearshore or whole lake model results. A whole lake model is in development by U.S. EPA which may impact Ashland's limit, but according to phosphorus implementation guidance, an interim limit should be set at a level that is achievable and that makes progress toward phosphorus reductions without the investment of temporary treatment or a compliance schedule to meet the interim limit. In the absence of an approved model, a WQBEL of 0.6 mg/L as a six-month average would be recommended. The 30-day p99 value of the 238 sample results is 0.79 mg/L which is above the recommended interim limit, therefore **an interim limit equal to the previous limit (the TBL of 1 mg/L) shall remain in effect for this permit term.**
- AThis limit is indicative of the best readily available phosphorus removal technology at the time this rule was promulgated in 12/01/2010.
- The facility does not lie within the boundaries of any approved TMDL area, thus a phosphorus WQBEL based on a TMDL allocation is likewise not required during this permit term.

It is unknown if the existing treatment plant can achieve the final water quality based effluent limits once the model results are known. If future modeling results calculate the loading allocations lower than the current discharges the facility may need to consider other control methods. Upon completion of the nearshore or whole lake model, the Department has the authority to modify the WPDES permit to include established WQBELs.

Mercury - The City of Ashland has requested and was granted a continued application of a mixing zone for calculating effluent limitations for mercury beyond November 15, 2010 under the exception for technical and economic considerations to the mixing zone phase-out for bioaccumulating chemicals of concern (BCC's) at 40 CFR, Part 132, Appendix F, Procedure 3 C. 6.

The City's mercury limit based on a mixing zone (11 ng/L) was included in the last permit issuance. In accordance with NR. 106.145(5)(a and b) the permittee shall receive a daily maximum limit equal to the calculated 1-day P_{99} with quarterly monitoring. The 1-day P_{99} of the data from May 2017 through July 2021 is 12.1 ng/L. However, this value is greater than the current interim limit of 11 ng/L, and based on s. NR 106.145(5)(c), Wis. Adm. Code, the limit cannot be increased. **Therefore, the alternative mercury limitation of 11 ng/L as a daily maximum will continue this permit term.**

The final limit for mercury is equal to the wildlife criterion (1.3 ng.L); this limit shall be met at the edge of the mixing zone. The mixing zone shall be no larger than necessary and based on the mercury wildlife criterion of 1.3 ng/L, the background mercury concentration is estimated at 0.2 ng/L and the 30-day P_{99} is 4.1 ng/L, therefore; the mixing zone has been set at 2.5:1. The exemption applies only to this permit term. Another request will need to be made as part of the next permit reissuance application.

***The Mercury Monitoring table note refers a permit section explaining the continued use of testing with a limit of quantification (LOQ) less than 1.3 ng/L.*

Nitrogen Series - (nitrate +nitrite, total Kjeldahl nitrogen and total nitrogen) – In 2011, the Upper Mississippi River Basin Association (UMRBA) completed the report "Upper Mississippi River Nutrient Monitoring, Occurrence, and Local Impacts: A Clean Water Act Perspective". Among the many recommendations of this report was that the states should expand their NPDES discharge monitoring requirements to include both phosphorus and nitrogen as they have important impacts on the mainstem upper Mississippi River as well as in the Gulf of Mexico. Consequently, the department developed the "Guidance for Total Nitrogen Monitoring in WPDES Permits" document dated October 2019, where quarterly effluent monitoring for total nitrogen is required for major municipal and industrial facilities discharging to surface waters. Section 283.55(1)(e) Wis. Stats. allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and s. NR 200.065 (1)(h) Wis. Adm. Code allows for this monitoring to be collected during the permit term.

WET Test - Whole effluent toxicity (WET) testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at http://dnr.wi.gov/topic/wastewater/wet.html. Based on historical WET test data and reasonable potential factor (RPF) calculations WET limits are not required this permit term. Federal regulations in 40 CFR Part 122.44(i) require annual Chronic and Acute WET testing in rotating quarters for facilities classified as majors (design flow greater than 1.0 MGD).

- ~~2023 - January-March~~
- ~~2024 – April-June~~
- ~~2025 – July-September~~
- ~~2026 – October-December~~
- ~~2027 – January-March~~

Changes to WET testing since the public noticed permit

The facility requested a continuation of quarter rotation used in the previous permit term. The schedule has been adjusted to:

- 2023 - April-June
- 2024 – July-September
- 2025 – October-December
- 2026 – January-March

****The WET Test monitoring table note refers a permit section detailing WET testing.*

Ammonia - Using current acute and chronic ammonia toxicity criteria for the protection of aquatic life and limit calculating procedures found in NR 105 and 106, Wis. Adm. Code (both effective March 1, 2004) Ammonia limitations were calculated for the facility. Daily maximum (32 mg/L), seasonal weekly average (62 mg/L (most restrictive)) and seasonal monthly average (25 mg/L (most restrictive)) limits were considered. It was determined effluent ammonia limits

are not needed this permit term because the maximum effluent ammonia concentration is 0.082 mg/Lis well below the calculated limits and there is little to no reasonable potential for those limits to be exceeded. Monthly sampling is required during 2025 in preparation for the next permit reissuance application process.

Monthly monitoring during the 2025 calendar year and will be used to determine if limits are needed for the next permit reissuance for the following parameters:

Arsenic – An arsenic effluent limit is not required this permit term. The calculated daily maximum limit (based on the Acute Toxicity Criterion (ATC)) of 680 ug/L and the calculated weekly average limit (based on the Chronic Toxicity Criterion (CTC)) of 1,628 ug/L, for this receiving water, based on NR 106 Wis. Adm Code. These values are greater than the mean effluent value of 0.32 ug/L. The sample taken used EPA 200.8 analytical method which has a limit of detection higher than 1/5th of the calculated limit (0.44 ug/L) based on Human Cancer Criteria (HCC) which makes determining if a nondetect sample is lower than that value unreliable. A different approved analytical method with a limit of detection less than or equal to 0.44 ug/L should be used for future samples. Since the effluent statistical arsenic concentrations is less than the limits necessary to protect water quality from a ACT and CTC standpoint, a limit is not required; however monthly monitoring is required during the 2025 calendar year in order to continue tracking concentrations and to attempt to better assess risks based on HCC.

Chloride - A chloride effluent limit is not required this permit term. The calculated daily maximum limit (based on ATC) is 1,514 mg/L and the weekly average limit (based on CTC) is 4,307 mg/L, for this receiving water, based on NR 106 Wis. Adm Code. These values are greater than the 1-day and 4-day effluent P99 values (110 and 77 mg/L respectively). Since the effluent statistical chloride concentrations are less than the limits necessary to protect water quality, a limit is not required; however monthly monitoring is required during the 2025 calendar year in order to continue tracking concentrations.

Copper - A copper effluent limit is not required this permit term. The calculated daily maximum limit (based on ATC) is 68.4 ug/L, the calculated weekly average limit (based on CTC) is 57.3 ug/L, and the monthly average limit (based on Taste & Odor Criteria (TOC) is 11,000 ug/L for this receiving water, based on NR 106 Wis. Adm Code. These values are greater than the effluent 1-day, 4-day and 30-day effluent P99 values (15, 11 and 9.5 ug/L respectively). Since the effluent statistical copper concentrations are less than the limits necessary to protect water quality, a limit is not required; however monthly monitoring is required during the 2025 calendar year in order to continue tracking concentrations.

Hexachlorobenzene - A hexachlorobenzene effluent limit is not required this permit term. During the previous permit term, the mean effluent concentration was nondetect with a limit of detection of 0.69 µg/L. There was one value of 0.0060 µg/L (05/24/2021) that has been treated as a possible false detect.

The commercial production of hexachlorobenzene has been banned because it is resistant to environmental degradation. It cannot form in the environment naturally, but it can be formed as a by-product by some types of industries. Monthly monitoring during the 2025 calendar year is required to determine if any potential sources of hexachlorobenzene discharging to the sewershed exist.

Thermal - Using the administrative rules for thermal discharges detailed in NR 102 Wis. Adm. Code effective October 2010, effluent thermal limits were calculated. The lowest calculated thermal limits for the Chequamegon Bay equal 120 degrees F. At temperatures above approximately 103° F, conventional biological treatment systems do not function properly and experience upsets. There is no indication that this temperature has ever been experienced in this treatment system. Therefore, there is no reasonable potential for the discharge to exceed this limit. No monitoring or effluent limits are recommended for temperature this permit term.

Sampling Frequency - The "Monitoring Frequencies for Individual Wastewater Permits" guidance document (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term.

4 Land Application - Monitoring and Limitations

Municipal Sludge Description						
Sample Point	**Sludge Class (A or B)**	**Sludge Type (Liquid or Cake)**	**Pathogen Reduction Method**	**Vector Attraction Method**	**Reuse Option**	**Amount Reused/Disposed (Dry Tons/Year)**
002	B	Cake	Aerobic digestion	Volatile Solids Reduction	Land application	290 dry tons/year
003	B	Liquid				
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? No						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? No, the most recent sample (2020) for the municipal well system was below the limit of detection. If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in landapplying sludge from this facility						
Is a priority pollutant scan required? No Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.						

Sample Point Number: 002- Belt Filter Press Cake and 003- Liquid Sludge

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH4-N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	

Changes from Previous Permit:

Water extractable phosphorus has been to the list of sampled parameters.

Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high-quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k).

002 This is the default outfall/sample point includes all sludge that is belt pressed into a cake form. Sampling for PCBs is required once during the 2023 calendar year. Only one PCB sample is needed from either 002 or 003 depending on which outfall has discharged during 2023.

003 The outfall/sample point shall be used only as necessary for the discharge of liquid sludge from the process prior to the belt press. If a situation arises and the outfall is needed the permittee shall notify the assigned Department wastewater engineer so that the appropriate monitoring forms can be generated.

Water extractable phosphorus (WEP) – WEP has been added to this permit term. It is the coefficient for determining plant available phosphorus from measured total phosphorus. In Wisconsin, the Penn State Method is utilized and is expressed in percent. While a total P may be significant, the WEP may show that only a small percentage of the P is available to plants because of factors such as treatment processes and chemical addition that "tie-up" phosphorus limiting the amount of phosphorus that is plant available. As part of the Wisconsin's nutrient management plan (NMP) requirements, the accounting of all fertilizers must be included over the NMP cycle. The fertilizer value of the waste needs to be communicated to the farmer and accounted for in the NMP.

5 Compliance Schedules

5.1 Mercury Pollutant Minimization Program

As a condition of the variance to the water quality based effluent limitation(s) for mercury granted in accordance with s. NR 106.145(6), Wis. Adm. Code, the permittee shall perform the following actions.

Required Action	Due Date
Annual Mercury Progress Reports: Submit an annual mercury progress report related to the pollutant minimization activities for the previous year. The annual mercury progress report shall: Indicate which mercury pollutant minimization activities or activities outlined in the Pollutant Minimization Program Plan have been implemented and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why; Include an assessment of whether each implemented pollutant minimization activity appears to be effective or ineffective at reducing pollutant discharge concentrations and identify actions planned for the upcoming year; Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next year to help address these barriers; Include an analysis of trends in total effluent mercury concentrations based on mercury sampling; and Include an analysis of how influent and effluent mercury varies with time and with significant loading of mercury. The first annual mercury progress report is to be submitted by the Due Date.	03/31/2023
Annual Mercury Progress Report #2: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	03/31/2024
Annual Mercury Progress Report #3: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	03/31/2025
Annual Mercury Progress Report #4: Submit a mercury progress report, related to the pollutant minimization activities for the previous year, as defined above.	03/31/2026
Final Mercury Report: Submit a final report documenting the success in reducing mercury concentrations in the effluent, as well as the anticipated future reduction in mercury sources and mercury effluent concentrations. The report shall: Summarize mercury pollutant minimization activities that have been implemented during the current permit term and state which, if any, activities from the Pollutant Minimization Program Plan were not pursued and why; Include an assessment of which pollutant minimization activities appear to have been effective or ineffective. Evaluate any needed changes to the pollutant reduction strategy accordingly; Identification of barriers that have limited program effectiveness and adjustments to the program that will be implemented during the next variance term (if applicable) to help address these barriers; Include an analysis of trends in mercury concentrations based on sampling and data during the current permit term; and Include an analysis of how influent and effluent mercury varies with time and with significant	03/31/2027

loadings of mercury. If the permittee intends to reapply for a mercury variance per s. NR 106.145, Wis. Adm. Code, for the reissued permit, a detailed Pollutant Minimization Program Plan outlining the pollutant minimization activities proposed for the upcoming permit term shall be submitted along with the final report. An updated pollutant minimization plan shall: Include an explanation of why or how each pollutant minimization activity will result in reduced discharge of the target pollutant; Evaluate any new available information on pollutant sources, timing, and concentration to update the mass balance assumptions and expected sources of the pollutant, and Identify any information needs that would help to better determine pollutant sources and make plans to collect that information.	
Annual Mercury Reports After Permit Expiration: In the event that this permit is not reissued by the date the permit expires, the permittee shall continue to submit annual mercury reports for the previous year following the due date of Annual Mercury Progress Reports listed above. Annual Mercury Progress reports shall include the information as defined above.	

Explanation of Compliance Schedules

Pollutant Minimization Program – As part of obtaining a Mixing Zone Exemption the facility must perform a pollution minimization program and submit annual status reports.

Attachments:

Water Flow Schematic(s)

Water Quality-Based Effluent Limitations for the Ashland Sewage Utility WPDES Permit No. WI-0030767-10-0" memo dated December 23, 2021

Proposed Expiration Date:

March 31, 2027

Justification of Any Waivers From Permit Application Requirements

N/A

Prepared By:

Sheri A. Snowbank Wastewater Specialist

Date: January 13, 2022

cc: Eric de Venecia, WDNR - Superior